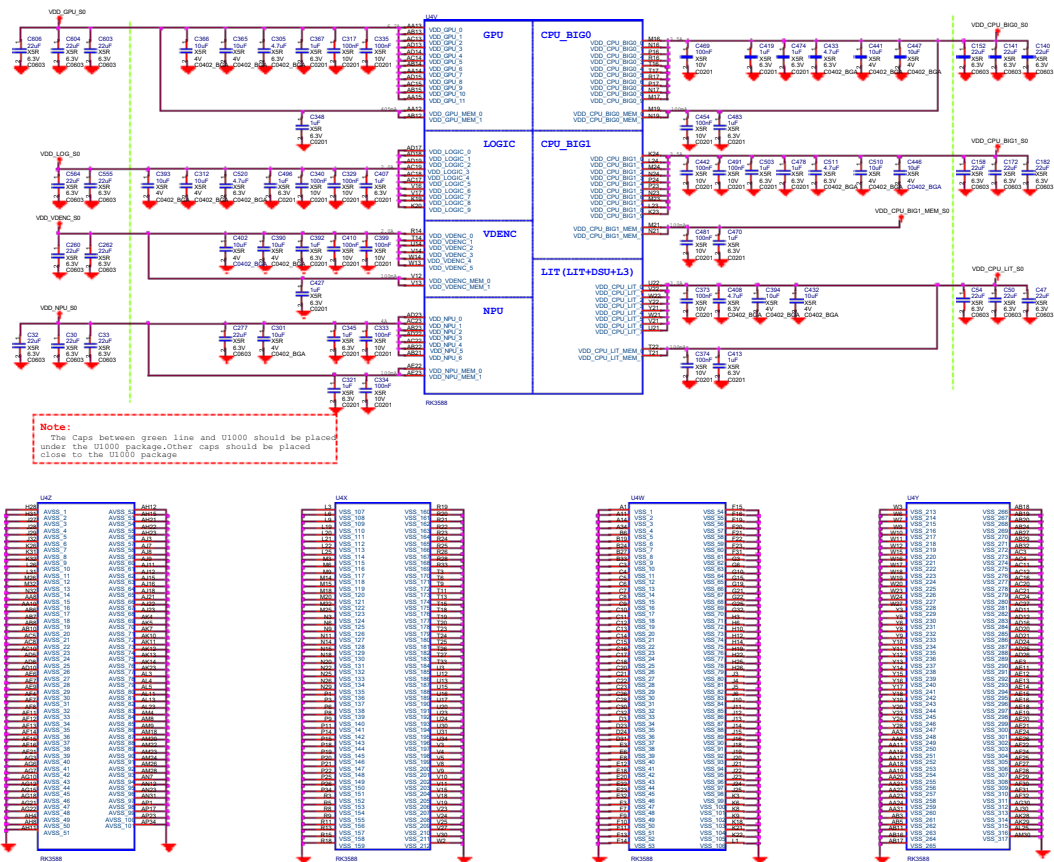
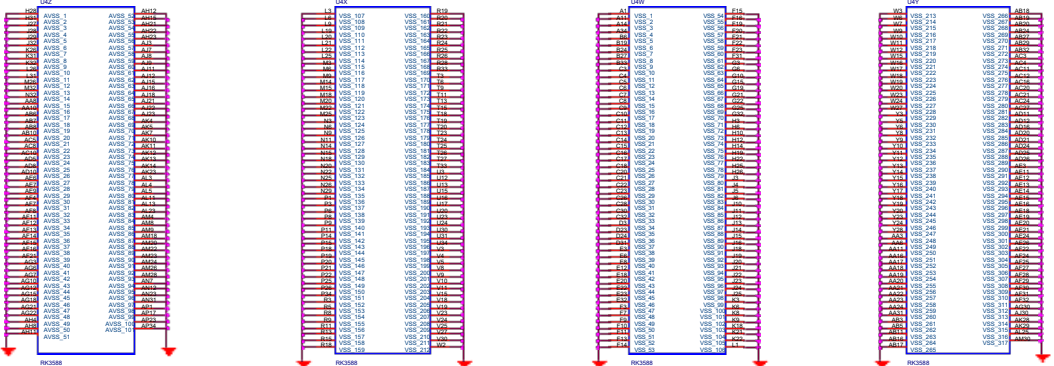


RK3588_V(POWER)



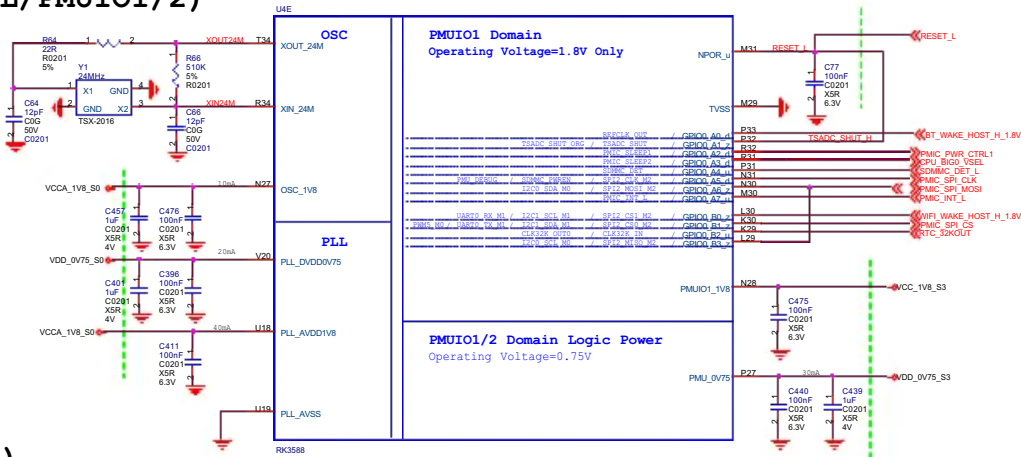
Note:
The Caps between green line and U1000 should be placed under the U1000 package. Other caps should be placed close to the U1000 package.



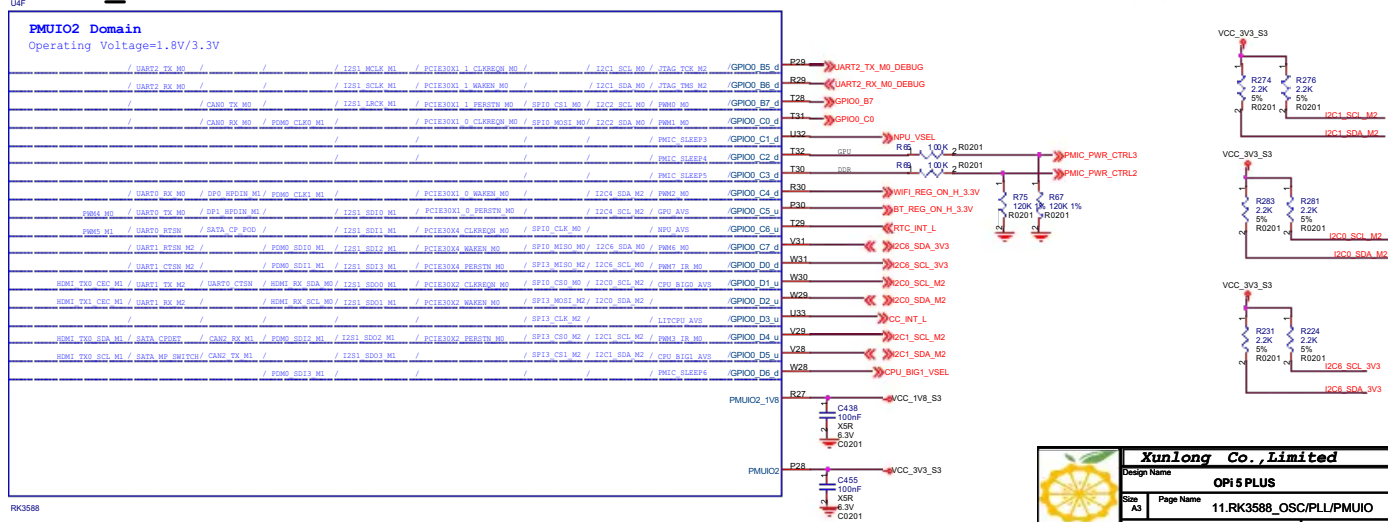


Xunlong Co., Ltd.
OPIN 5 PLUS
Page 10 of 10
10 RK3588_Power/GND
1.0

RK3588_E (OSC/PLL/PMUI01/2)

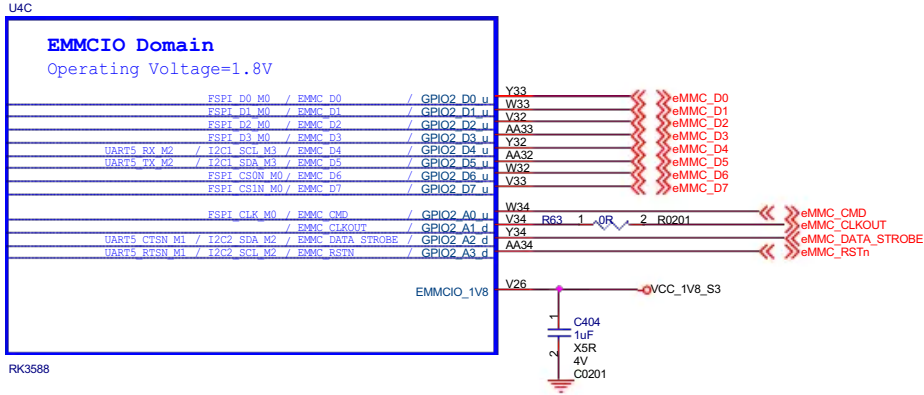


RK3588_F (PMUI02)

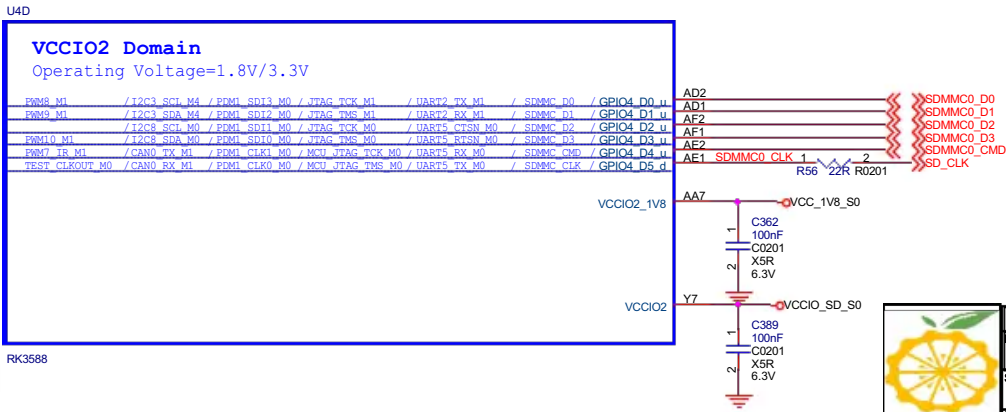


 Xunlong Co., Limited		Design Name	
		OPI 5 PLUS	
Size	Page Name	11.RK3588_OSC/PLL/PMUI0	
Date	Friday, May 29, 2020	Sheet	11 of 41

RK3588_C (EMMCIO Domain)

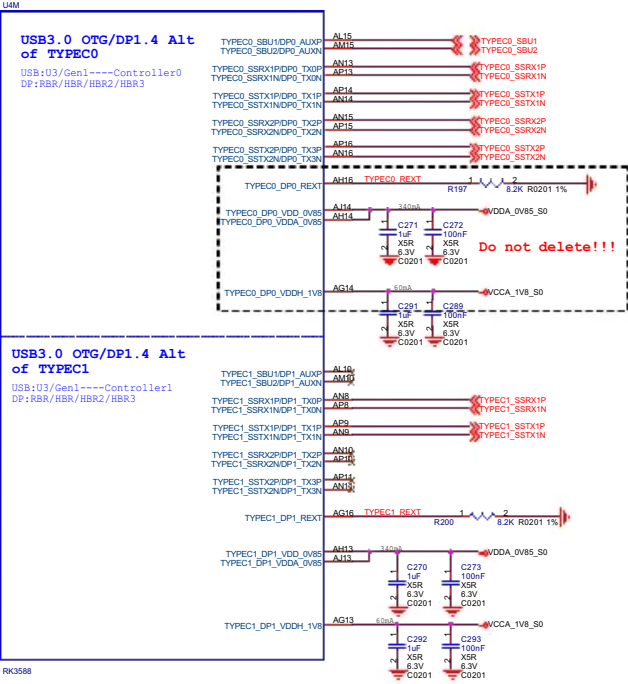


RK3588_D (VCCIO2 Domain)



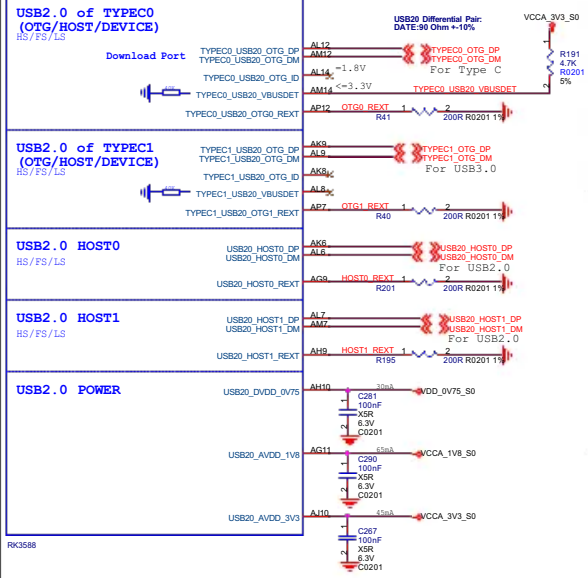
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Design Name			
OPI 5 PLUS			
Size	Page Name		Rev
A4	13.RK3588_Flash/SD Controller		1.0
Date:	Friday, May 19, 2023		Sheet 13 of 41

RK3588_M (TYPE C/DP)



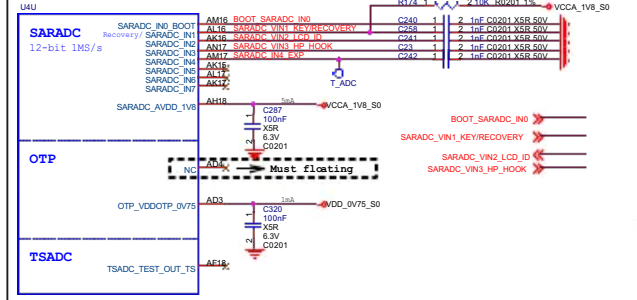
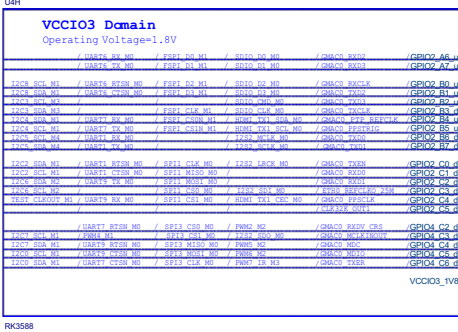
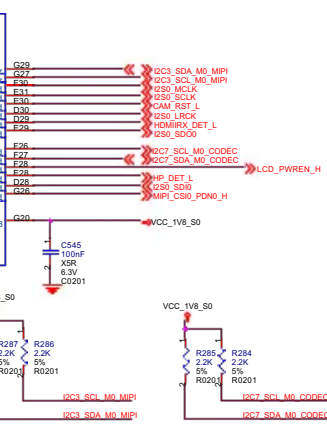
RK3588

RK3588_L (USB2.0 HOST/OTG)



RK3588

			
Xunlong Co., Limited			
Design Name			
OPI 5 PLUS			
Size	Page Name	Date	Rev
A3	14.RK3588_USB30/USB20_Ctrl	Friday, May 19, 2023	1.0
Sheet		14	of 41

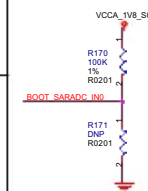


```

BOOT MODE CONFIG

```

TABLE 1					
Item	Rup	Rdown	ADC	VOL	BOOT MODE
LEVEL1	DNP	100K	0	0V	USB (Maskrom mode)
LEVEL2	100K	20K	682	0.3V	SD Card-USB
LEVEL3	100K	51K	1365	0.6V	EMMC-USB
LEVEL4	100K	100K	2047	0.9V	FSPI M0-USB
LEVEL5	100K	200K	2730	1.2V	FSPI M1-USB
LEVEL6	100K	499K	3412	1.5V	FSPI M2-USB
LEVEL7	100K	DNP	4095	1.8V	FSPI_M2-FSPI_M1-FSPI_M0 -EMMC-SD Card-USB



[illegible]

		Xunlong Co., Limited	
DesignName		OPI 5 PLUS	
Size Custom	Page Name	16.RK3588_MIP1 Interface	Rev 1.0
Date	File Name	Sheet	of

RK3588_S (HDMI2.1 TX)

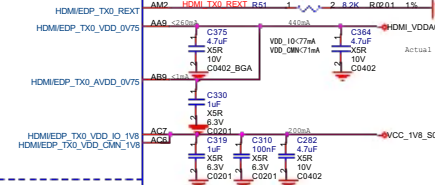
RK3588_T (HDMI20 RX)

Note:
The HDMI2.1 trace length is less than 100mm.
The HDMI2.1 differential trace impedance is 100 OHM.

HDMI TX/eDP MUX Port0

HDMI: V2.1 12Gbps
eDP: V1.3 5.4Gbps

HDMI_TX0_SBDP&DP_TX0_AUXP
HDMI_TX0_SBDP&DP_TX0_AUXN
HDMI_TX0_DP&DP_TX0_D0P
HDMI_TX0_DP&DP_TX0_D0N
HDMI_TX0_D1P&DP_TX0_D1P
HDMI_TX0_D1P&DP_TX0_D1N
HDMI_TX0_D2P&DP_TX0_D2P
HDMI_TX0_D2P&DP_TX0_D2N
HDMI_TX0_D3P&DP_TX0_D3P
HDMI_TX0_D3P&DP_TX0_D3N
HDMI_TX0_REXT
HDMI_TX0_VDD_OV75
HDMI_TX0_AVDD_OV75
HDMI_TX0_VDD_IO_V18
HDMI_TX0_VDD_CMN_V18

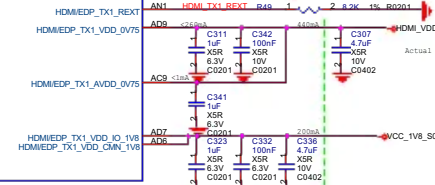


HDMI2.1_TX
100 Ohm +/-10%

HDMI TX/eDP MUX Port1

HDMI: V2.1 12Gbps
eDP: V1.3 5.4Gbps

HDMI_TX1_SBDP&DP_TX1_AUXP
HDMI_TX1_SBDP&DP_TX1_AUXN
HDMI_TX1_DP&DP_TX1_D0P
HDMI_TX1_DP&DP_TX1_D0N
HDMI_TX1_D1P&DP_TX1_D1P
HDMI_TX1_D1P&DP_TX1_D1N
HDMI_TX1_D2P&DP_TX1_D2P
HDMI_TX1_D2P&DP_TX1_D2N
HDMI_TX1_D3P&DP_TX1_D3P
HDMI_TX1_D3P&DP_TX1_D3N
HDMI_TX1_REXT
HDMI_TX1_VDD_OV75
HDMI_TX1_AVDD_OV75
HDMI_TX1_VDD_IO_V18
HDMI_TX1_VDD_CMN_V18



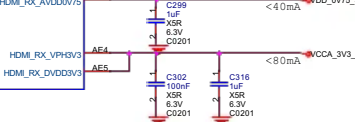
Note:
The Caps to the left of green line should be placed under the U1000 package. Other caps should be placed close to the U1000 package.

Note:
If not used:
Signal: leave floating
Power: Floating or tie to VSS

HDMI RX

HDMI: V2.0

HDMI_RX_D0P
HDMI_RX_D0N
HDMI_RX_D1P
HDMI_RX_D1N
HDMI_RX_D2P
HDMI_RX_D2N
HDMI_RX_CLKP
HDMI_RX_CLKN
HDMI_RX_REXT
HDMI_RX_AVDD_OV75
HDMI_RX_VPH3V3
HDMI_RX_DVDD3V3

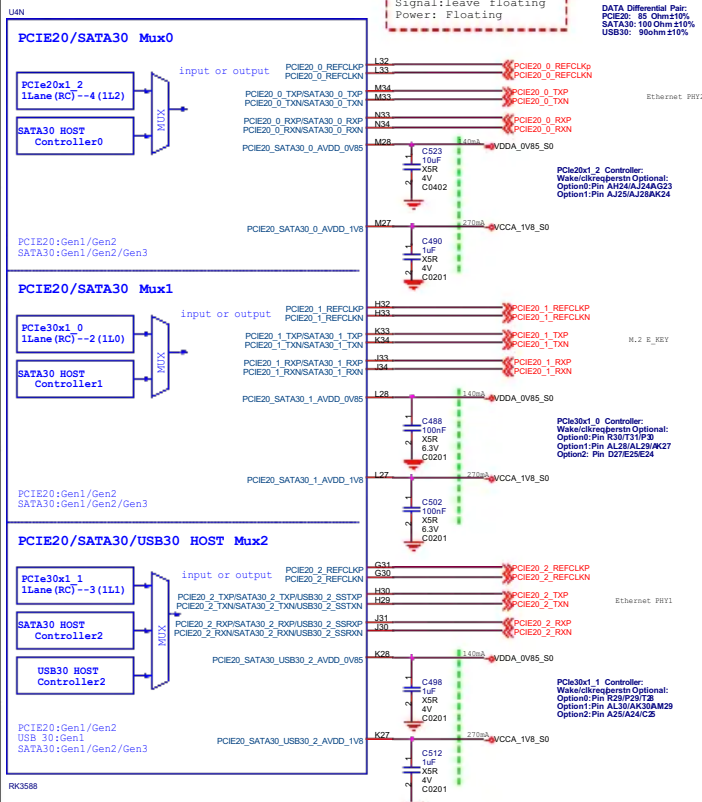


HDMI20_RX
100 Ohm +/-10%

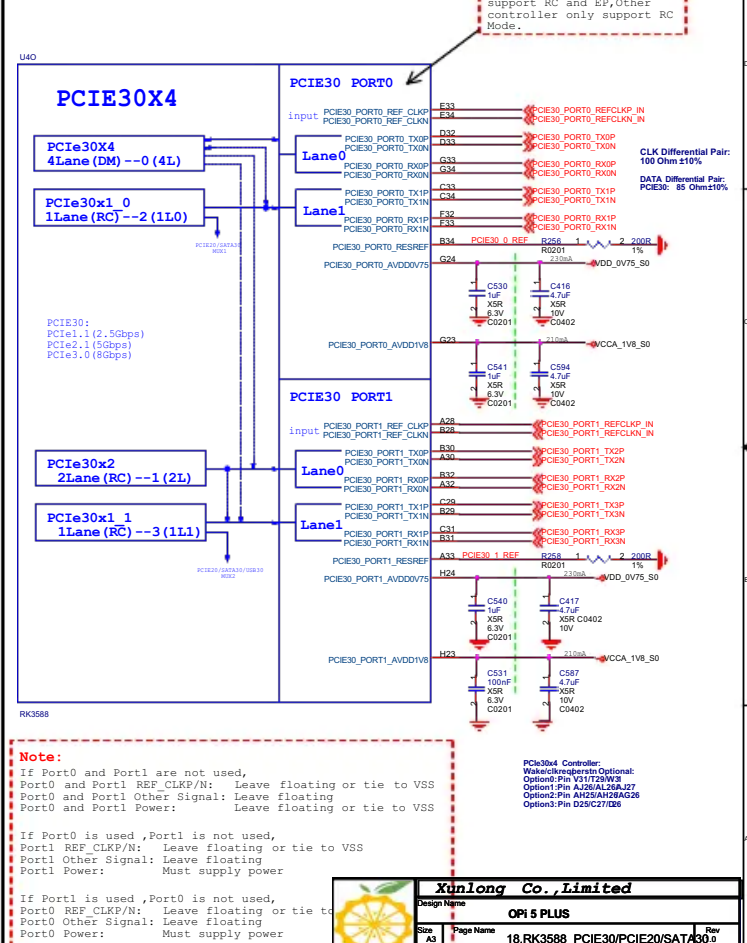
Note:
If not used:
Signal: leave floating
Power: Floating

Xunlong Co., Limited			
Design Name: OPI 5 PLUS			
Size: A3	Page Name: 17.RK3588_HDMI/eDP Interface	Rev: 1.0	
Date: Friday, May 19, 2023	Sheet: 17	of	21

RK3588_N (PCIe20)



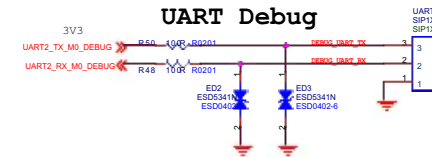
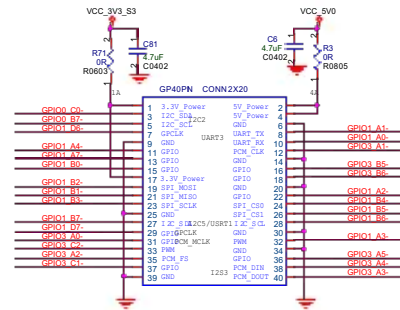
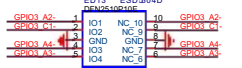
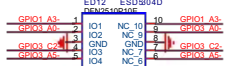
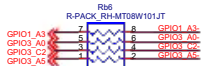
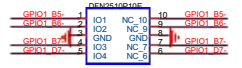
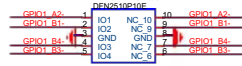
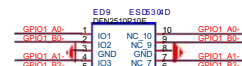
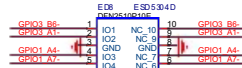
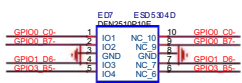
RK3588_O (PCIe30)



RK3588 K(VCCIO6 Domain)

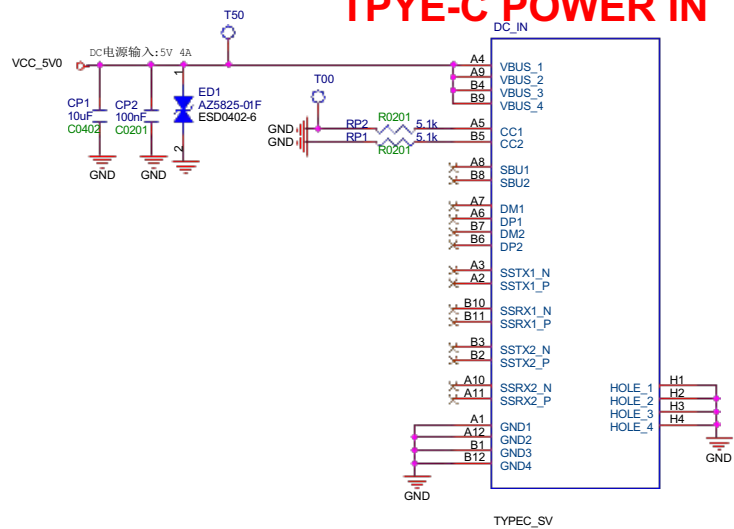
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OP1 5 PLUS			
Size A2	Page Name	19.RK3588_1.8V/3.3V GPIO	Rev 1.0
Date	Friday, May 10, 2024	Sheet	19 of 41



DCIN-5V/4A

TPYE-C POWER IN

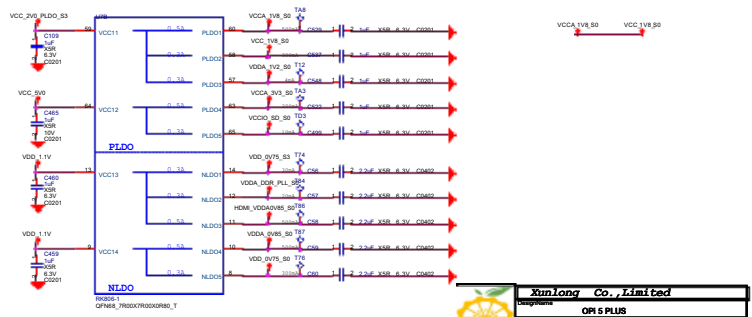


Xunlong Co., Limited			
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Size	Page Name	Rev	
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Date:	Friday, May 19, 2023	Sheet	21 of 41

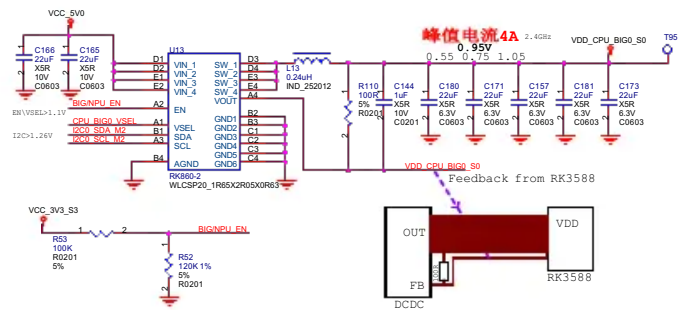
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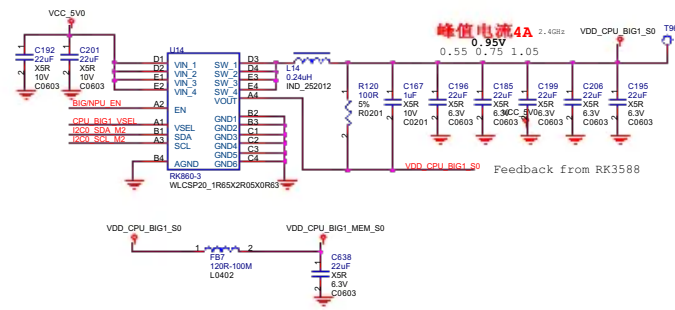
PMIC RK806-1 LDO



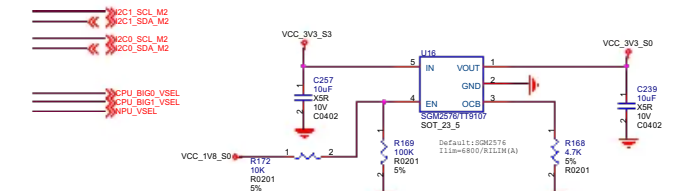
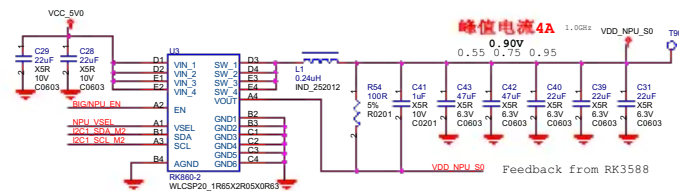
VDD_CPU_BIG0



VDD_CPU_BIG1

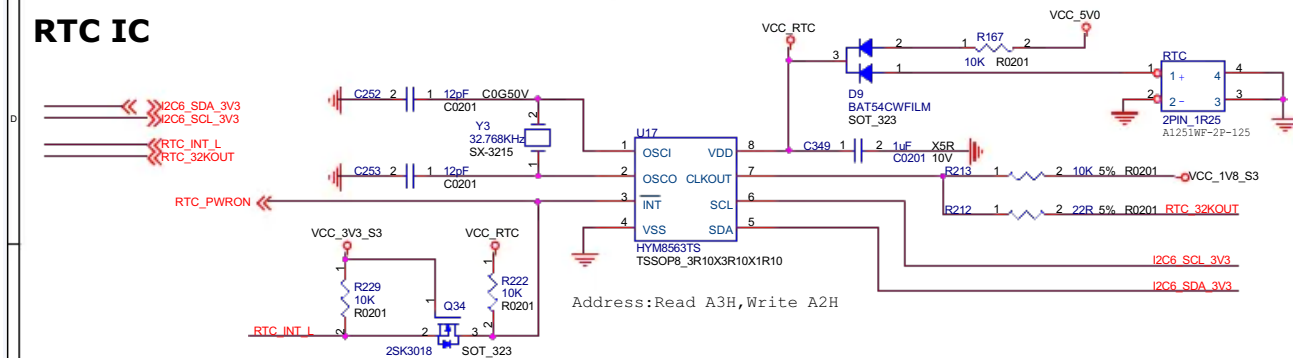
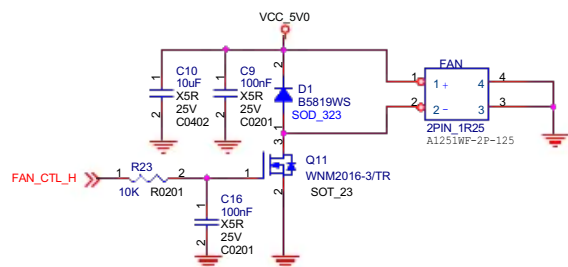


VDD_NPU



Xunlong Co., Limited			
Design Name		OPI 5 PLUS	
Size	Page Name	23.Power_Ext Discrete	Rev
A3			1.0
Date:	Friday, May 19, 2023	Sheet	23 of 41

RTC IC

**FAN_POWER**

Xunlong Co., Limited

Design Name

OPI 5 PLUS

Size
A4

Page Name

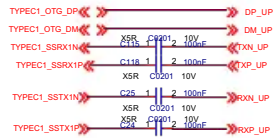
24.RTC/FAN

Rev
1.0

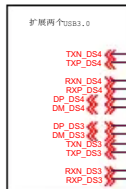
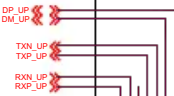
Date: Friday, May 19, 2023

Sheet 24 of 41

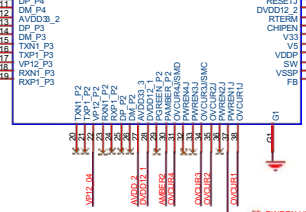
USB30 HOST PORT



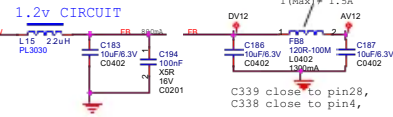
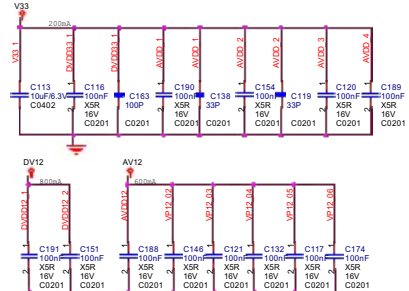
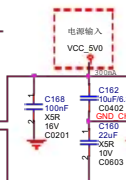
USB3.0 for HOST



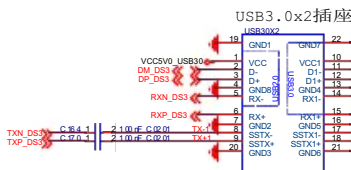
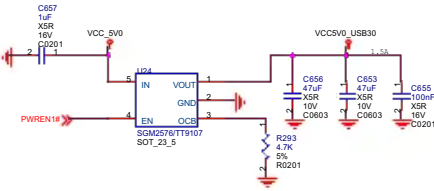
GL3523-QFN76



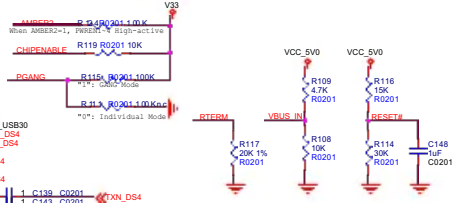
PWREN18 is the only power-enable output for GAMB mode.



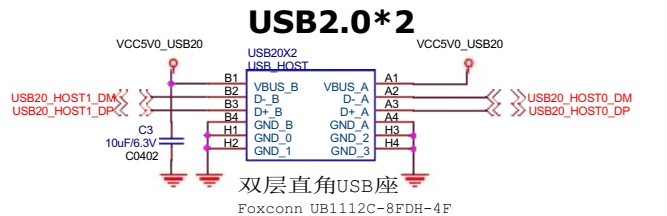
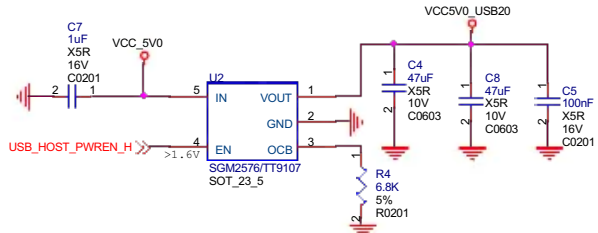
C339 close to pin28,
 C338 close to pin4,



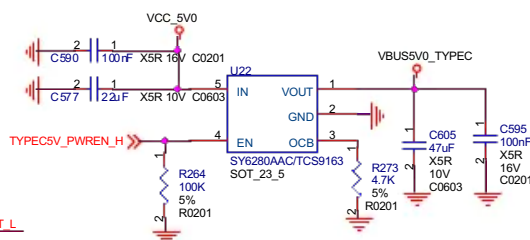
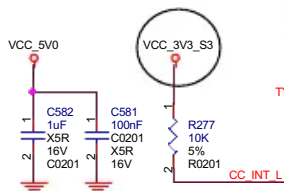
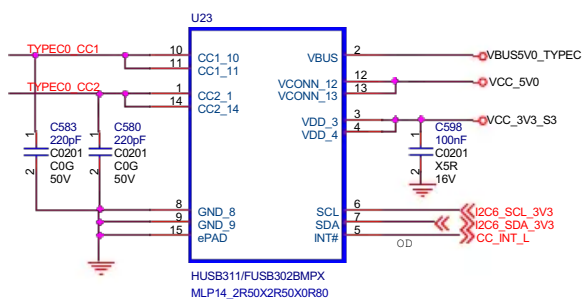
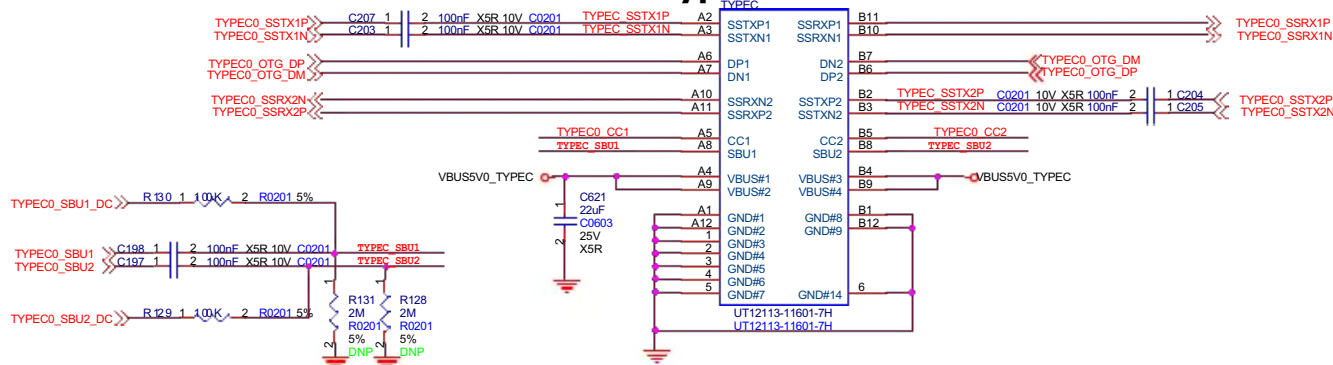
USB3 A Device
 USB3_0_DIPX2X2X50X1031



Design Name: OPI5 PLUS	
Size: A3	Page Name: 25.USB30 Port
Date: Friday, May 28, 2021	Rev: 1.0



Type-C PORT



Xunlong Co., Limited

Design Name

OPI 5 PLUS

Size

A4

Page Name

26.Type C/USB2.0

Rev

1.0

Date

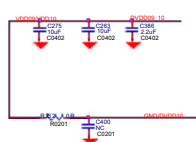
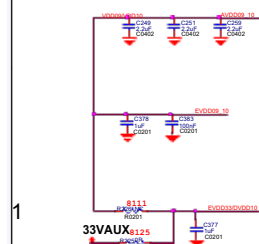
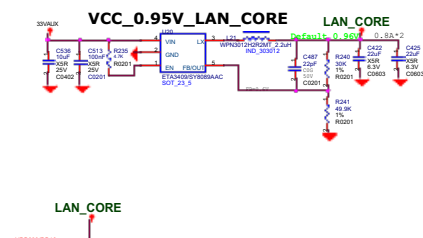
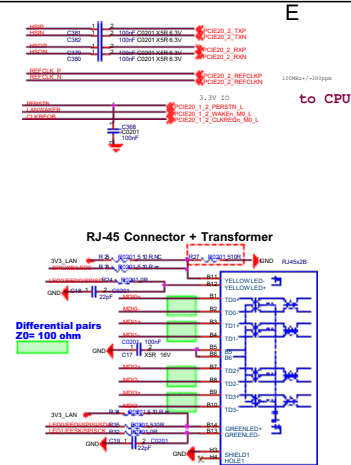
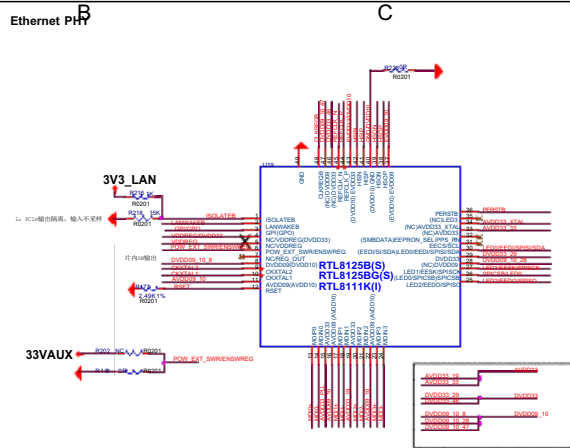
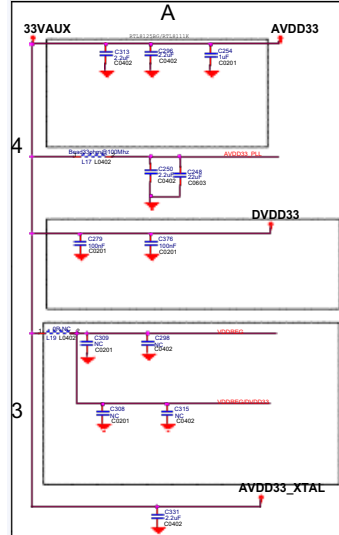
Friday, May 10, 2023

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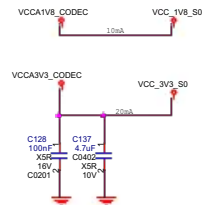
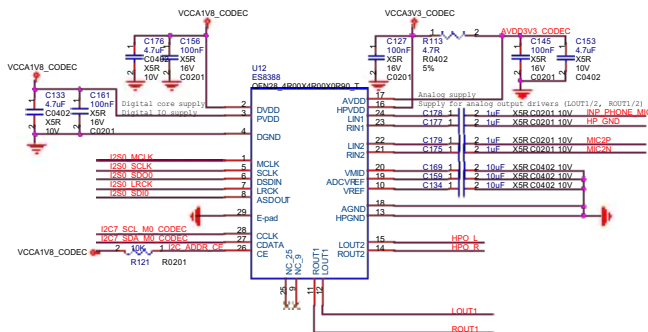
26

of

41



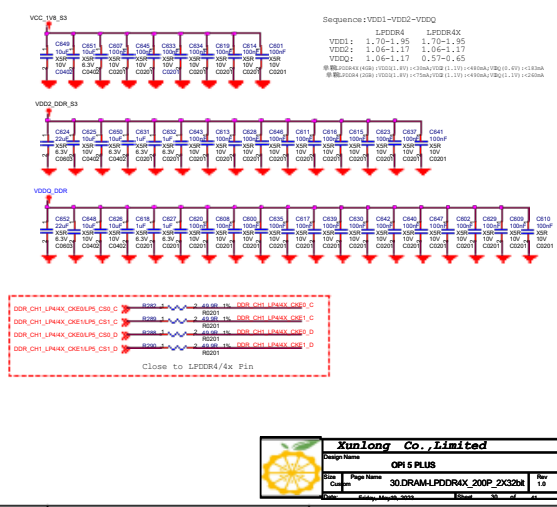
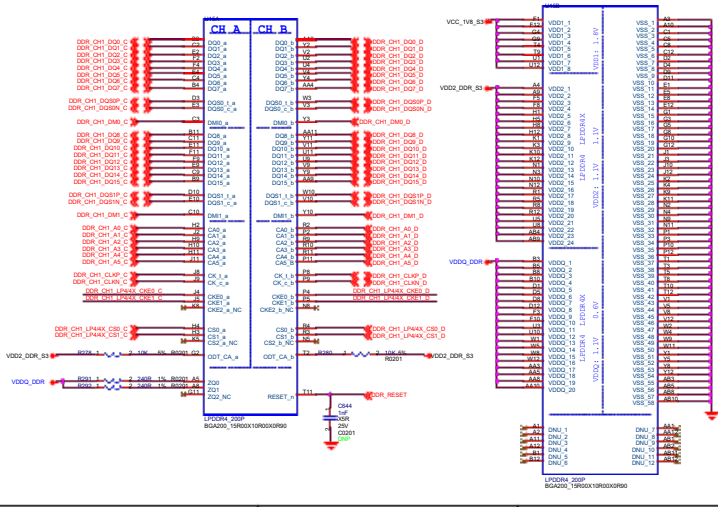
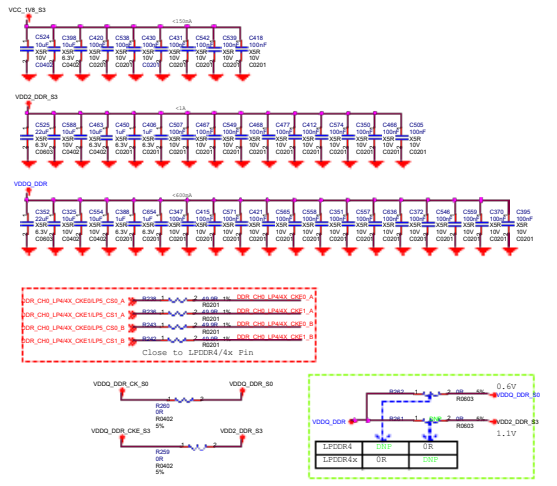
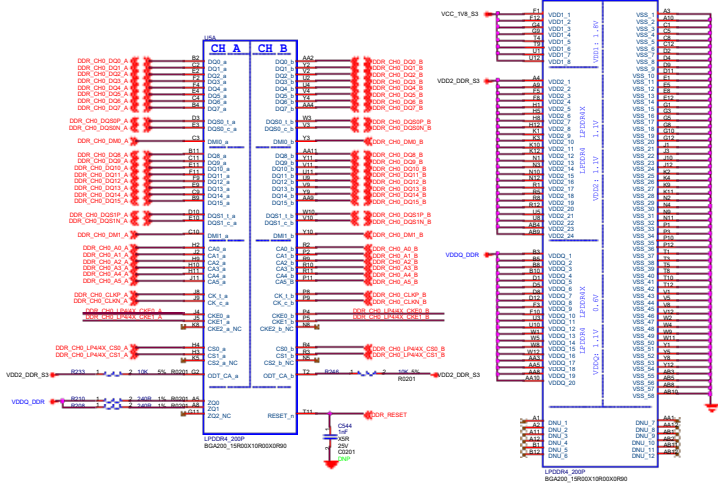
I2C7_SDA_M0_CODECD
I2C7_SCL_M0_CODECD
I2S0_MCLK
I2S0_SCLK
I2S0_LRCK
I2S0_SD00
I2S0_SDI0



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	1
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LPDDR4/4X



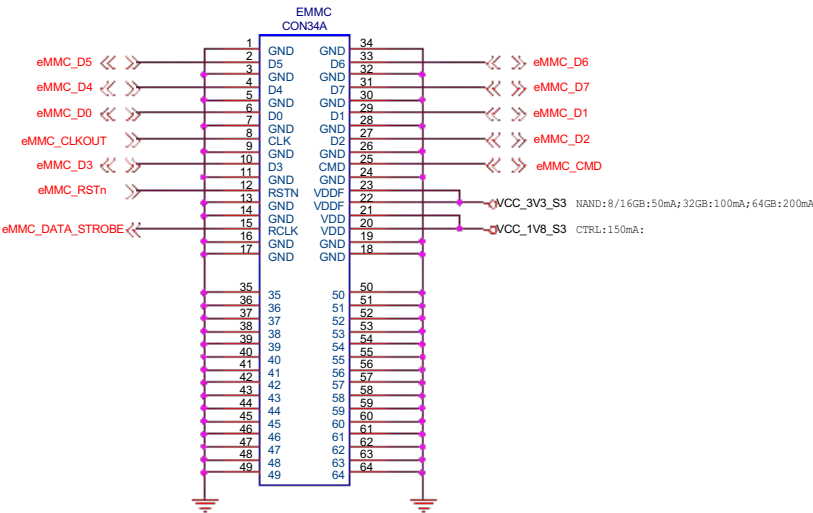
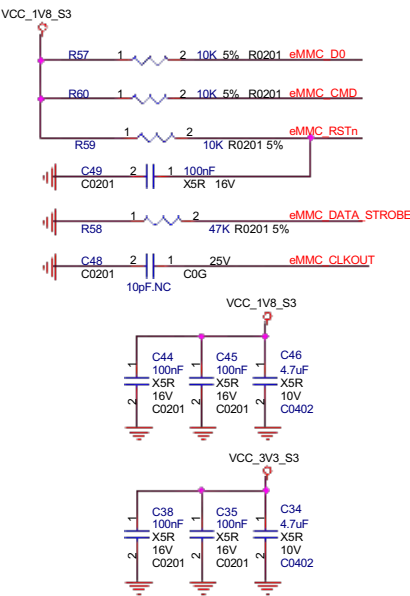
Xunlong Co., Limited

CHIPS PLUS

30.DRAM LPDDR4X_20P_2X32M

Rev 1.0

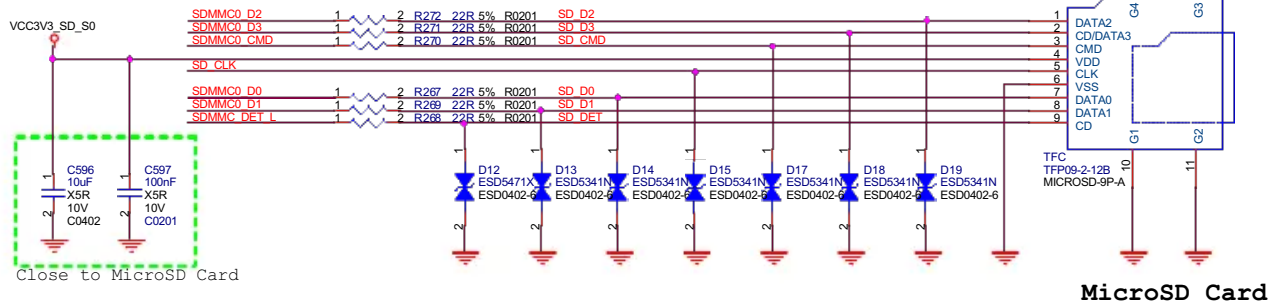
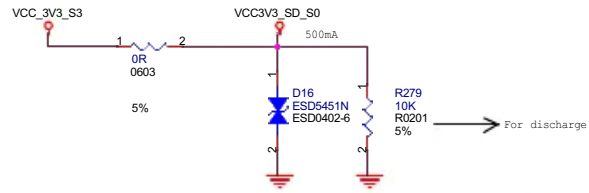
eMMC FLASH



Xunlong Co., Limited			
Design Name			
OPI 5 PLUS			
Size	Page Name		Rev
A4	31.Flash-eMMC Flash		1.0
Date	Friday, May 19, 2023	Sheet	31 of 41

TF CARD

SDMMC0_D0
SDMMC0_D1
SDMMC0_D2
SDMMC0_D3
SDMMC0_CMD
SD_CLK
SDMMC_DET_L
SDMMC_PWREN



Xunlong Co., Limited			
Design Name			
OPI 5 PLUS			
Size	Page Name		Rev
A4	32.Flash-TF Card		1.0
Date:	Friday, May 19, 2023	Sheet	32 of 41

Rockchip Confidential

SPI NOR OR NAND Flash

FSPI_D0
FSPI_D1
FSPI_D2
FSPI_D3
FSPI_CLK
FSPI_CS0

VCC_1V8_S3

R1	1	2	10K.nc	R0201	FSPI_D3	FSPL_CS0
					FSPI_D1	
R2	1	2	10K.nc	R0201	FSPI_D2	FSPI_D2

U1						
W25Q256JWPIQ						
wson-6x5-mm						
1	CS		VCC	8		
2	DO(D1)	HOLD(D3)		7	FSPI_D3	
3	WP(D2)		CLK	6	FSPI_CLK	
4	VSS		DI(D0)	5	FSPI_D0	

VCC_1V8_S3
20mA

1	C2	1	C1
	100nF		1uF
	C0201		X5R
2	X5R	2	16V
	16V		C0201

SPI FLASH:1.8V

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33.Flash-SPI FLASH

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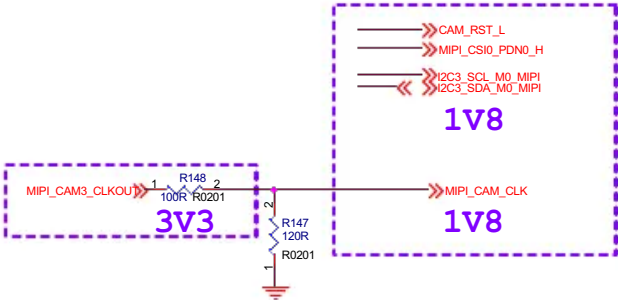
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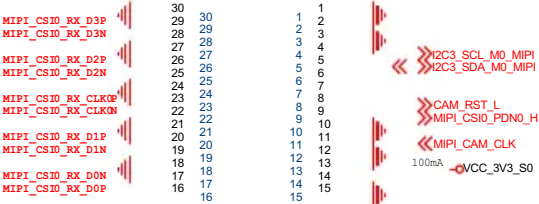
MIPI-CSIO_RX

MIPI_CSIO_RX_D0P
MIPI_CSIO_RX_D0N
MIPI_CSIO_RX_D1P
MIPI_CSIO_RX_D1N
MIPI_CSIO_RX_D2P
MIPI_CSIO_RX_D2N
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MIPI_CSIO_RX_CLK0P
MIPI_CSIO_RX_CLK0N

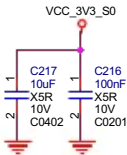


CAM

OK-10F030-04
CON_SMD_OK-10F030-04



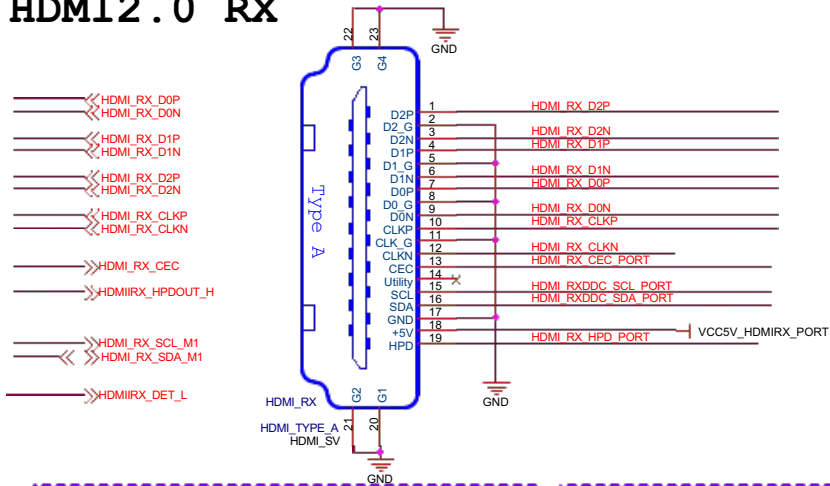
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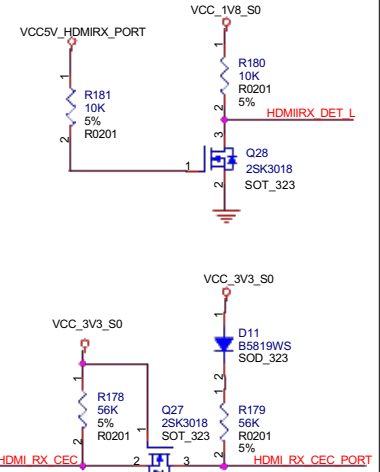
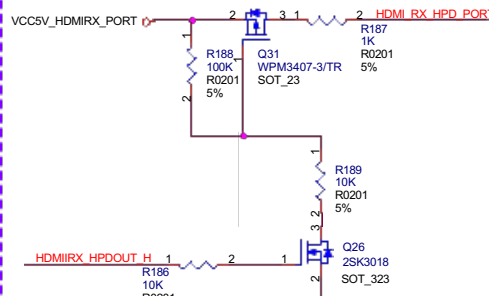
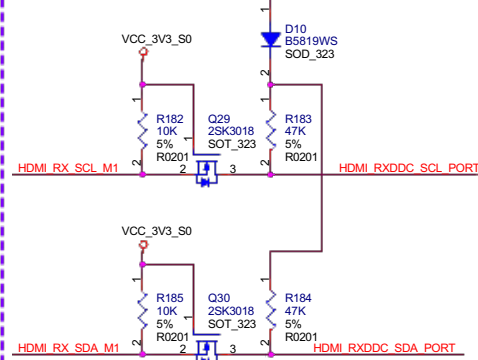
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Design Name			
OPI 5 PLUS			
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A4	34.VI-Camera_MIPI_CSI-RX		1.0
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HDMI2.0 RX

Note:



HDMI RX DDC



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35.VI-HDMI2.0 RX

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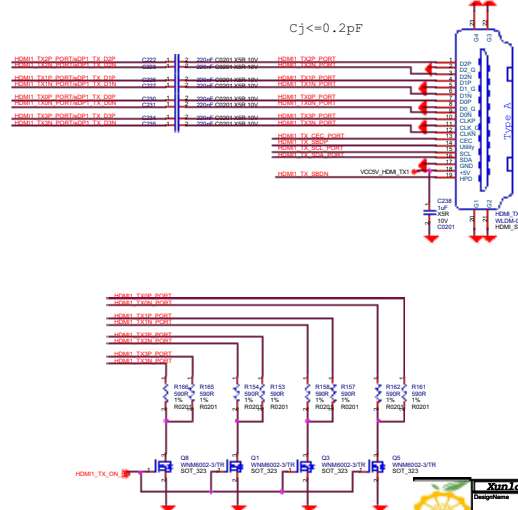
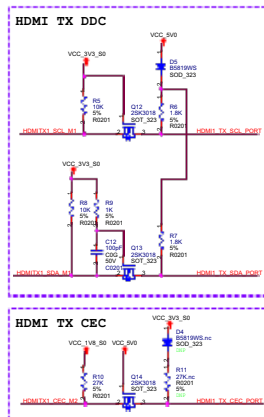
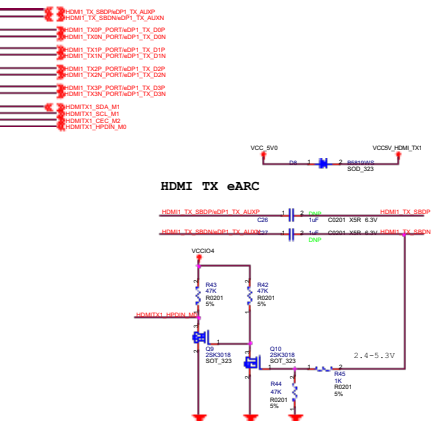
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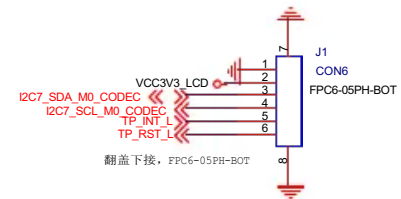
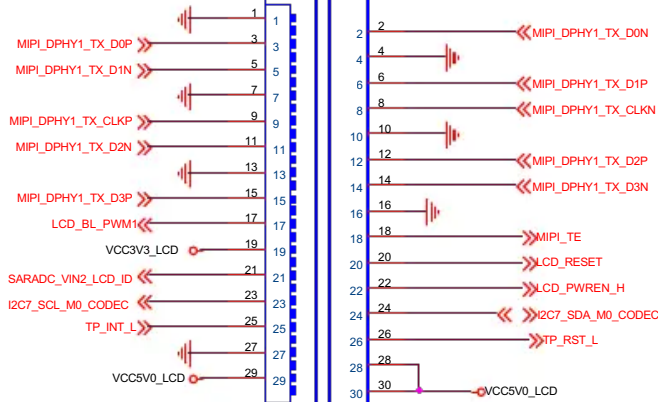
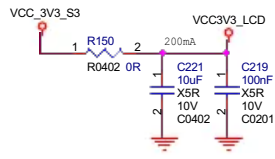
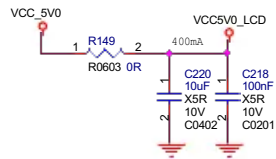
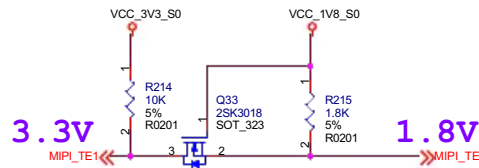
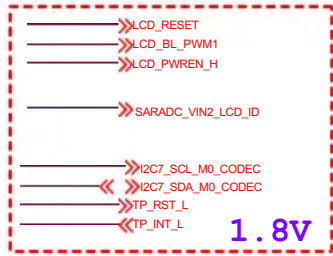
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HDMI TX1



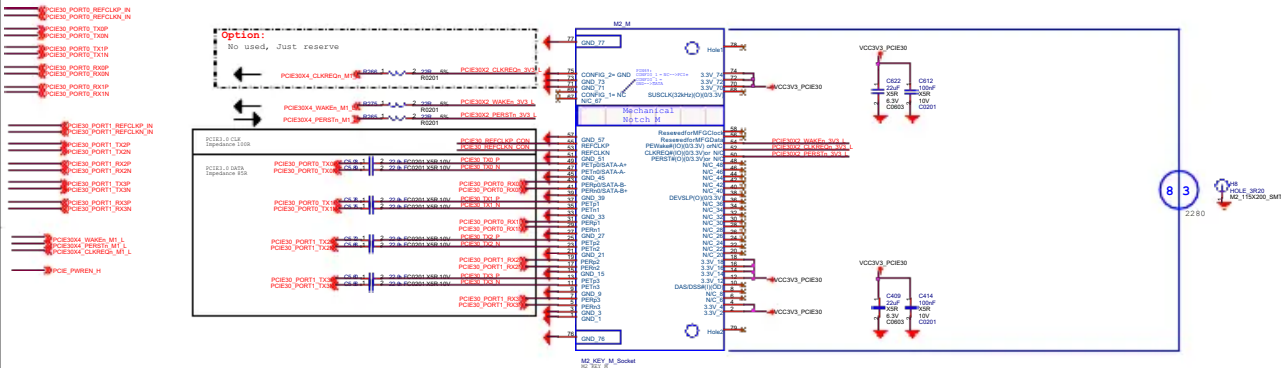
MIPI DPHY1 TX

MIPI DPHY1 TX

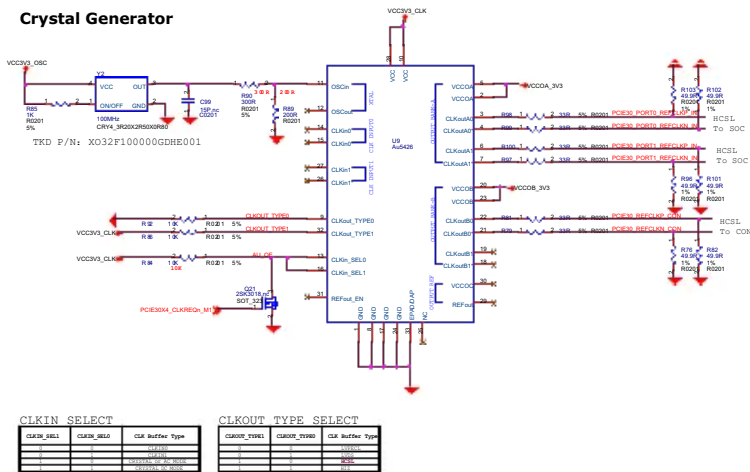


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	37.VO-LCM_MIPI	
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M.2 PCIe3.0 x 2Lanes



Crystal Generator



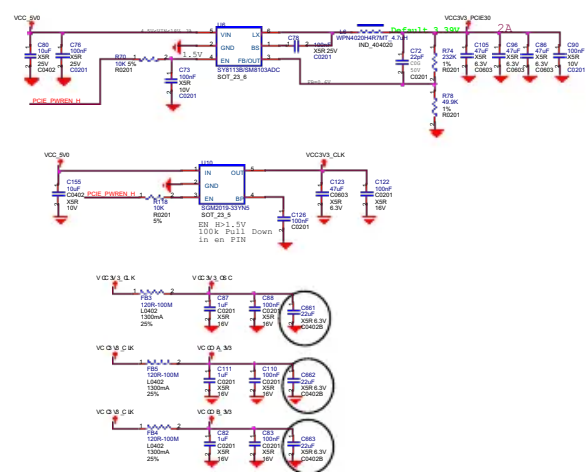
CLKIN SELECT

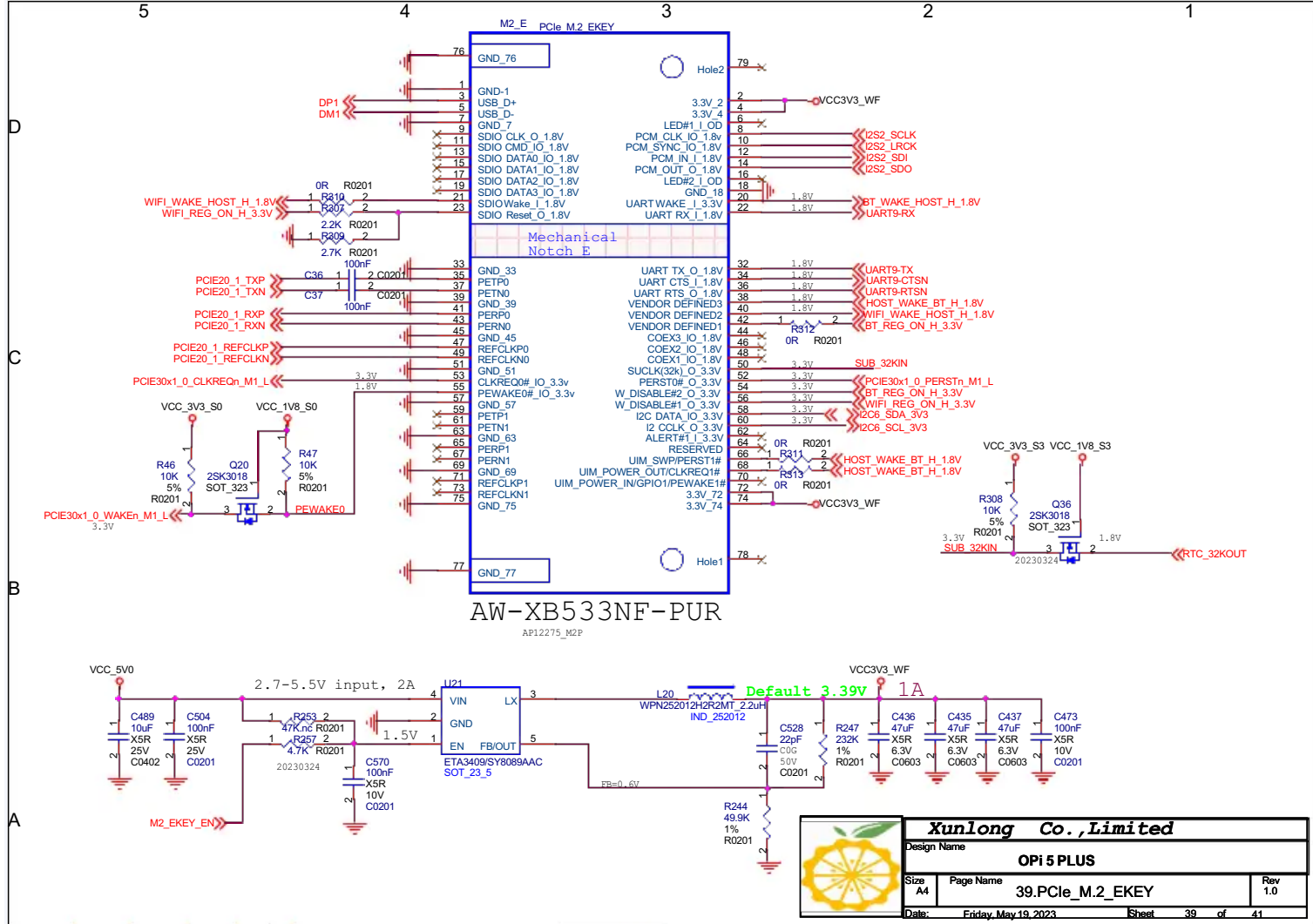
CLKIN_SEL1	CLKIN_SEL2	CLK Buffer Type
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0	1	CLKOUT2
1	0	CLKOUT3
1	1	CLKOUT4

CLKOUT TYPE SELECT

CLKOUT_TYPE1	CLKOUT_TYPE2	CLK Buffer Type
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0	1	CLKOUT2
1	0	CLKOUT3
1	1	CLKOUT4

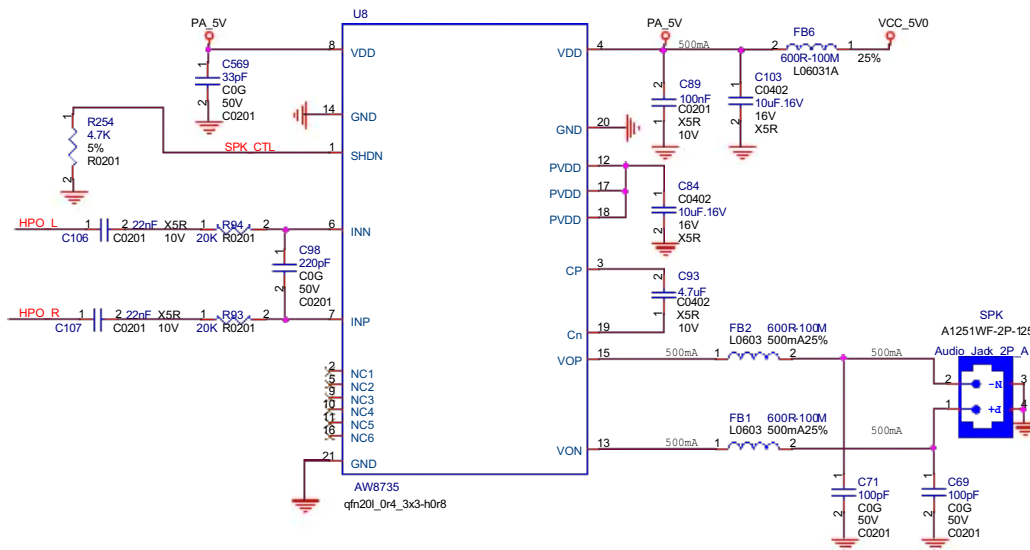
M.2 Power



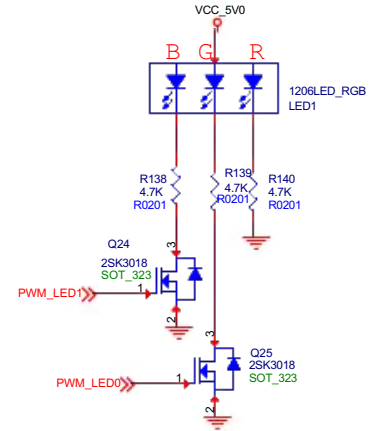
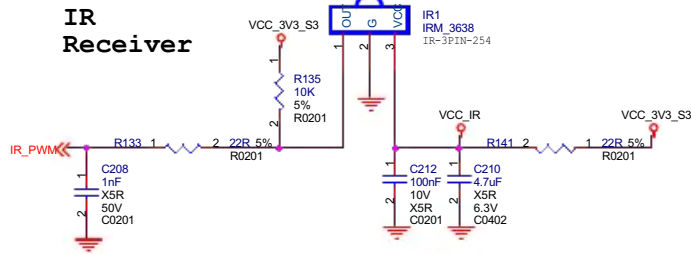
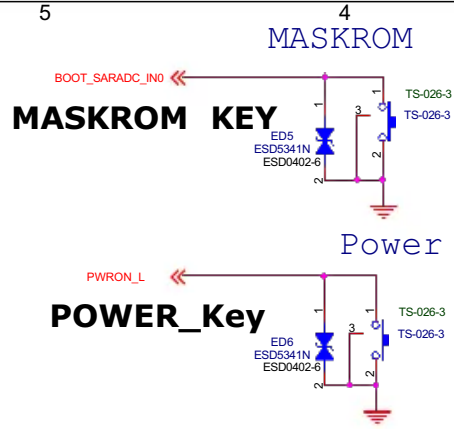


SPK PA

HPO_L
HPO_R
SPK_CTL



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